REMARKS

Applicants thank the Examiner for consideration given the present application. Claims 1-7, 9-18, 20-22, 24, 25 and 27 are presently pending. Claims 8, 19, 23 and 26 had been previously canceled. Claims 1, 11, 22, 24, 25 and 27 are independent and have been amended. These amendments are being made without conceding the propriety of the Examiner's rejection, but merely to timely advance prosecution of the present application. Applicants respectfully request reconsideration of the rejected claims in light of the amendment and remarks presented herein, and earnestly seek timely allowance of all pending claims.

Information Disclosure Statement

Applicants thank the Examiner for considering the references cited in the SB-08 of the Information Disclosure Statement submitted on August 23, 2007. However, as noted in our previous response dated May 26, 2009, the Examiner has not provided initialed copies of the SB-08 previously submitted to the USPTO on May 27, 2008. Applicants note that the SB-08 is present in PAIR and is dated May 27, 2008. Thus, Applicants respectfully request that the Examiner consider the references submitted in the SB-08 dated May 27, 2008.

Claim Rejections under 35 U.S.C. § 103 – Liao, Di Federico, Drewry

Claims 1-7, 9-18, 20-22, 24, 25 and 27 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Liao et. al. ("Liao", US 2004/0075660 A1) in view of Di Federico et. al. ("Di Federico", US 2005/0226538 A1) and further in view of Drewry ("Drewry", US 5,748,178). This rejection is respectfully traversed.

Independent claims 1 and 11 recite, *inter alia,* "**the control section setting a second color element level for a subpixel near the extracted subpixel having the set first color element level, based on a second distance between the extracted subpixel having the set first color element level and the near subpixel in a second direction perpendicular to the first direction and the set first color element level**".

First Direction and Second Direction

A direction is defined by a plurality of points. However, it is not readily apparent what is being held to be the equivalent to a "first direction" even though the Examiner equates the direction defined by "any neighboring pixel" (such as pixel 393 in Figure 3C of Drewry) to a center pixel 391 to the "second direction". Moreover, it is unclear how a dimensionless object (a first pixel) can be considered equivalent to a one dimensional object (a first direction).

It is just as unclear what the Examiner means by "a second direction perpendicular to a first pixel". A direction (generally considered as a line) can be perpendicular to another line, surface or higher order geometric construction but not to a point because, by definition, a set of perpendicular objects is defined by their relative directions with respect to one another and the direction of a point is indefinite (*a minimum of two points is required to define a direction*). Therefore, a plurality of radial directions arising from a point can only be considered perpendicular to concentric surfaces centered on said point, *but not the point itself.*

Furthermore, the only direction perpendicular to a plurality of non-parallel directions on a plane (the plane upon which all the neighboring pixels in Drewry lie) is the direction normal to the plane itself (i.e. protruding outwards from the display device itself). Thus, the Examiner's position that directions are perpendicular to a point where such directions intersect is incorrect. The point can be considered on a line along the direction that is perpendicular to all directions on the plane, but this direction is *not equivalent to the first direction* of the present invention *because it would require such a direction to be protruding out from the display device.*

Since it is clear that the display is conducted on a plane surface, all relevant directions should be located on the same plane. It would be obvious that since the first direction must be located on a plane, Drewry *discloses all directions on the plane radiating from a point necessarily includes both directions that are perpendicular to the first direction and also directions that are not perpendicular to the first direction.*

However, since the claimed invention requires that the second direction only be perpendicular to the first direction, it is clear that Drewry, in allowing for any direction, is much broader and *does not conclude that the present invention is obvious.*

Setting a Second Color Element Level

The amended claim language now requires that the control section reference the stroke data to extract subpixels based on said stroke data. The setting of the second color element level is performed in accordance with the extracted subpixels having the set first color element. However, none of the cited references teach the above-mentioned feature.

On Page 4 of the Office Action, the Examiner admits that neither Liao nor Di Federico teach these features and thus the Examiner relies on Drewry. The Examiner notes that Drewry teaches "an anti-aliasing method that blends colors based on the distance of neighboring pixels". The Examiner finds that this teaching in Drewry is equivalent to the second distance and a second color element level of the present invention (*See Office Action, Page 5*). However, this is not the case. Drewry teaches the following:

> Conceptually, therefore, the output image is produced by sliding the input image under a 3x3 filter window, with a corresponding output pixel being computed for each new location of the window . . . the image filter of "filter template" 390, therefore, defines neighborhood operations applied at every pixel in the input image (*See Column 8, Lines 1-4, 11-12*)

The output image in Drewry is *not* determined in accordance with a second color element level based on a second distance between the extracted subpixel having the set first color element level. Instead, Drewry *indiscriminately applies a filter to any and all subpixels and their neighboring subpixels*, in every direction, irrespective of the first direction or the pixels near pixels having the set first color element level, unlike the claimed invention. Rather than setting a second color element level for every subpixel "in a neighborhood" as is intended by Drewry, the claimed invention sets the second color element level near subpixels having the set first color element level in a <u>second direction perpendicular</u> to the first direction.

Assuming, *arguendo*, that Drewry teaches setting a second color element level according to the claimed invention, which Applicants do not concede, Drewry still does not teach "**<u>a control section for referencing the stroke data to extract subpixels based on the stroke data and setting a first color element level for an extracted subpixel . . . based on both or either a first distance between a center of the extracted subpixel and at least one dot</u>**

contained in a stroke in a first direction or a line width set for the stroke" as recited by claims 1 and 11.

Drewry teaches "summing resulting products. This sum becomes the new pixel value for the corresponding pixel in the output image" (See Column 8, Lines 17-19). Thus it is clear that the output image of Drewry receives contributions from all filtered pixels and therefore is *determined by distances of all pixels in relation to each other and not simply that of extracted pixels as in the present invention.*

Therefore, if the teachings of Drewry are applied, alone or in combination, certain pixels in Drewry, which are sufficiently far away from any extracted pixels, would have "second color element levels" determined without any basis from an extracted subpixel, unlike in the amended claims in which the control section references the stroke data to extract subpixels based on that stroke data and the setting of the second color element level is performed *in accordance with the extracted subpixels having the set first color element level.*

Independent claim 22 recites, *inter alia*, "**further comprising the step of obtaining a second distance between a near subpixel and the extracted subpixel having the set first color element level in a second direction perpendicular to the first direction, and the step of setting a second color element level for the subpixel near the extracted subpixel having the set first color element level based on the obtained second distance and the set first color element level**". Independent claim 25 recites, *inter alia*, "**further comprising the step of obtaining a second distance in a second direction perpendicular to the first direction between a subpixel and the extracted subpixel having the first set color element level, and the step of setting a second color element level for the subpixel near the extracted subpixel having the set first color element level based on the obtained second distance and the set first color element level**".

First Direction and Second Direction

A direction is defined by a plurality of points. However, it is not readily apparent what is being held to be the equivalent to a "first direction" even though the Examiner equates the direction defined by "any neighboring pixel" (such as pixel 393 in Figure 3C of Drewry) to a

center pixel 391 to the "second direction". Moreover, it is unclear how a dimensionless object (a first pixel) can be considered equivalent to a one dimensional object (a first direction).

It is just as unclear what the Examiner means by "a second direction perpendicular to a first pixel". A direction (generally considered as a line) can be perpendicular to another line, surface or higher order geometric construction but not to a point because, by definition, a set of perpendicular objects is defined by their relative directions with respect to one another and the direction of a point is <u>indefinite</u> (*a minimum of two points is required to define a direction*). Therefore, a plurality of radial directions arising from a point can only be considered perpendicular to concentric surfaces centered on said point, *but not the point itself*.

Furthermore, the only direction perpendicular to a plurality of non-parallel directions on a plane (the plane upon which all the neighboring pixels in Drewry lie) is the direction normal to the plane itself (i.e. protruding outwards from the display device itself). Thus, the Examiner's position that directions are perpendicular to a point where such directions intersect is incorrect. The <u>point can be considered on a line along the direction that is perpendicular to all directions</u> on the plane, but this direction is *not equivalent to the first direction* of the present invention *because it would require such a direction to be protruding out from the display device*.

Since it is clear that the display is conducted on a plane surface, all relevant directions should be located on the same plane. It would be obvious that since the first direction must be located on a plane, Drewry *discloses all directions on the plane radiating from a point necessarily includes both directions that are perpendicular to the first direction and also directions that are not perpendicular to the first direction*.

However, since the claimed invention requires that the second direction <u>only</u> be perpendicular to the first direction, it is clear that Drewry, in allowing for <u>any direction</u>, is much broader and *does not conclude that the present invention is obvious*.

<u>Setting a Second Color Element Level</u>

The amended claim language now requires that the control section reference the stroke data to extract subpixels based on said stroke data. The setting of the second color element level is performed in accordance with the extracted subpixels having the set first color element. However, none of the cited references teach the above-mentioned feature.

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The output image in Drewry is *not* determined in accordance with a second color element level based on a second distance between the extracted subpixel having the set first color element level. Instead, Drewry *indiscriminately applies a filter to any and all subpixels and their neighboring subpixels*, in every direction, irrespective of the first direction or the pixels near pixels having the set first color element level, unlike the claimed invention. Rather than setting a second color element level for every subpixel "in a neighborhood" as is intended by Drewry, the claimed invention sets the second color element level near subpixels having the set first color element level in a <u>second direction perpendicular</u> to the first direction.

Assuming, *arguendo*, that Drewry teaches setting a second color element level according to the claimed invention, which Applicants do not concede, Drewry still does not teach **<u>"referencing the stroke data to extract subpixels based on the stroke data, both or either the step of obtaining a first distance . . . and at least one dot contained in a stroke in a first direction, or the step of obtaining a line width set for the stroke, and the step of setting a first color element level for the extracted subpixel based on both or either the obtained first distance or the line width</u>"** as recited by claims 22 and 25.

Drewry teaches "summing resulting products. This sum becomes the new pixel value for the corresponding pixel in the output image" (See Column 8, Lines 17-19). Thus it is clear that the output image of<u> Drewry receives contributions from all filtered pixels</u> and therefore is

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Independent claim 24 recites, *inter alia*, "**further comprising the step of obtaining a second distance between a near subpixel and the extracted subpixel having the set first color element level in a second direction perpendicular to the first direction, and the step of setting a second color element level for the subpixel near the extracted subpixel having the set first color element level based on the obtained second distance and the set first color element level**". Independent claim 27 recites, *inter alia*, "**further comprising the step of obtaining a second distance between a subpixel and the extracted subpixel having the set first color element level in a second direction perpendicular to the first direction, and the step of setting a second color element level for the subpixel near the extracted subpixel having the set first color element level based on the obtained second distance and the set first color element level**".

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direction of a point is <u>indefinite</u> (*a minimum of two points is required to define a direction*). Therefore, a plurality of radial directions arising from a point can only be considered perpendicular to concentric surfaces centered on said point, *but not the point itself.*

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However, since the claimed invention requires that the second direction <u>only</u> be perpendicular to the first direction, it is clear that Drewry, in allowing for <u>any direction,</u> is much broader and *does not conclude that the present invention is obvious.*

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Drewry teaches "summing resulting products. This sum becomes the new pixel value for the corresponding pixel in the output image" (See Column 8, Lines 17-19). Thus it is clear that the output image of <u>Drewry receives contributions from all filtered pixels</u> and therefore is *determined by distances of all pixels in relation to each other and not simply that of extracted pixels as in the present invention.*

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stroke data and the setting of the second color element level is performed *in accordance with the extracted subpixels having the set first color element level.*

For at least the reasons stated above, independent claims 1, 11, 22, 24, 25 and 27 are patentably distinct from Liao, Di Federico and Drewry. Claims 2-7, 9, 10, 12-18, 20 and 21 are at least allowable by virtue of their dependency on corresponding allowable independent claim.

Accordingly, it is respectfully requested to withdraw this obviousness rejection of claims 1-7, 9-18, 20-22, 24, 25 and 27 based on Liao, Di Federico and Drewry.

CONCLUSION

In view of the above amendment and remarks, Applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application; the Examiner is respectfully requested to contact Charu K. Mehta, Reg. No. 62,913 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

Date: November 18, 2009   Respectfully submitted,

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